
Two New Species of *Begonia* (Begoniaceae) from the Atlantic Coastal Forest in the State of São Paulo, Brazil

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ABSTRACT. *Begonia salesopolensis* and *B. jureiensis*, known only from a montane forest in the state of São Paulo, Brazil, are described and illustrated. The former belongs to section *Ewaldia*, but it is distinguished from the other taxa of this section by its fleshy capsules with rudimentary or absent wings. The flattened style branches, obconical anthers, and the bilamellate placentae, ovuliferous throughout place *B. jureiensis* in section *Pereira*, and the peltate, glabrous leaf blades distinguish it from the other species of this section, *B. edmundoi* Brade.

RESUMO. *Begonia salesopolensis* e *B. jureiensis*, conhecidas apenas para a Serra do Mar no Estado de São Paulo, são descritas e ilustradas. A primeira distingue-se das demais espécies da Seção *Ewaldia* pelas cápsulas carnosas com alas rudimentares ou ausentes. Os ramos do estilete achatados e as anteras obcônicas enquadram *B. jureiensis* na seção *Pereira*, e suas folhas peltadas e glabras diferenciam-na da outra espécie desta seção, *B. edmundoi* Brade.

The genus *Begonia* is well represented in Brazil, especially in the Atlantic coastal forest. Smith et al. (1986) published two recent treatments of the genus, which attributed 240 taxa to Brazil, and included synonyms and a key for all species of *Begonia*. The floristic study of the genus in Atlantic forest in the state of São Paulo consisted of 40 taxa, 15 of which are endemic to São Paulo and 14 shared with Rio de Janeiro State (Gomes da Silva, 1998). During the preparation of this survey, we discovered two new species of *Begonia*, which are described below.

***Begonia salesopolensis* S. Gomes da Silva & Mamede, sp. nov.** TYPE: Brazil. São Paulo: Mun. Salesópolis, Biological Station of Boracéia, 3 jun. 1992, S. J. Gomes da Silva & E. P. Piacentin 307 (holotype, SP; isotypes, K, MO, RB, SPF, UEC). Figure 1A–I.

Herbae ad suffrutescences glabri. Folia petiolo basifixo, laminae coriaceae, transverse ovalia, valde asymmetricae.

Flores albi, magni. Capsulae carnosae, coriaceae in sicco, alis nullis vel obsoletis.

Herbs to subshrubs, glabrous, 0.3–1.5(–1.8) m tall. Stems erect, internodes (1–)3–5.5(–8.1) cm long. Stipules tardily deciduous, ovate to obovate, erect, apex mucronulate, (2.3–)3–4.5 × (1.4–)2–3 cm; petioles terete, reddish, (4.5–)9–16.5(–21) cm long. Lamina basifixed, entire, transversely ovate, strongly asymmetric, (11.5–)15–24.5(–28) × (6–)7–12(–13.5) cm, palmatinervous, 6 to 10 primary veins, prominent on the upper surface, basal lobe rounded, (4.7–)6–9(–11) × (5.7–)7–11.5(–13.5) cm, margins undulate, apex acuminate, upper surface dark green, opaque, lower surface light green to wine-colored. Cymes 3 to 5(6) dichotomously branched, peduncles (12–)17–32(–36) cm long; bracts caducous, white to lightly pink, obovate, conduplicate, apex retuse, (1.1–)1.5–2(–3) × (0.6–)1–1.4(–1.8) cm. Staminate flowers: tepals 4, white, outer ones rounded-ovate to obovate, 15–25 × (5–)11–24 mm, inner ones obovate to oblong, (6–)10–17(–19) × (2–)3–6(–8) mm, stamens (25–)30 to 40(–45), anthers oblong, (1.8–)2–3(–3.5) mm, longitudinally ridged along dehiscence sutures, filaments free, (0.8–)1–1.5 mm, connective prominent, (0.3–)0.4–0.6 mm. Pistillate flowers: bracteoles 2, tardily caducous, white, ovate, apex retuse, (7–)10–12 × (5–)7–10(–14) mm; tepals 5, white, four ovate to obovate, (10–)14–23(–26) × (7–)10–18(–23) mm, the remaining one elliptic to obovate, 10–14(–19) × 5–6(–8) mm, hypanthium 7–7.5 mm long, ovary 6–6.5 mm long, placentae entire, style branches cylindrical, tortuous, stigma spirally band-shaped. Capsules globose, fleshy, strongly coriaceous when dried, (0.7–)0.9–1.1(–1.4) × (0.6–)0.8–1(–1.2) cm, wings absent or only rudimentary, unequal, the largest, if present, semilunate, (1–)3–4(–6) × (2–)4–6(–7) mm. Seeds cylindrical, minute.

Distribution. This species is known only from the type locality, Salesópolis Municipality, São Paulo, Brazil, between 700 and 900 m, growing in clearings in the forest where trees are shorter than usual.




Figure 1. —A–I. *Begonia salesopolensis* S. Gomes da Silva & Mamede. —A. Branch with fruits. —B. Outer and inner tepals of staminate flower, dorsal view. —C. Stamen. —D. Staminate flower. —E. Bract, ventral view. —F. Tepals of the pistillate flower, dorsal view. —G. Apex of the style. —H. Capsule. —I. Ovary in transverse section. J–Q. *Begonia jureiensis* S. Gomes da Silva & Mamede. —J. Staminate flower. —K. Outer and inner tepals of the staminate flower, dorsal view. —L. Stamen. —M. Tepals of the pistillate flower, dorsal view. —N. Gynoecium. —O. Apex of the style branch. —P. Bracteole of the pistillate flower, dorsal view. —Q. Habit. (A, from Gomes da Silva & Piacentin 257; B–I, from Gomes da Silva & Piacentin 307; J–P, from Rossi et al. 563; Q, from Gomes da Silva et al. 189.)

Phenology. Collected in flower from December to March, in fruit from December to July.

Etymology. The specific epithet alludes to the specific type locality (Salesópolis), a preserved area of Atlantic coastal forest in the southern part of São Paulo State, Brazil.

This species can be easily recognized by its almost wingless capsules with thick mesocarp, strongly coriaceous when dried, and by its large flowers up to 5 cm in diameter. The stigma spirally band-shaped, the leaf blades entire and palmately veined, and the shrubby habit place this species in section *Ewaldia*. It is morphologically most similar to *B. valdensium* A. DC. by its erect habit, leaf blade shape, number of stamens and anther shape, style branches, and tepals. However, *B. valdensium* differs in having a trichome ring on the petiole, proximal to blade, flowers up to 3 cm in diameter, and papery capsules with well-developed wings.

Paratypes. BRAZIL. São Paulo: Mun. Salesópolis, Biological Station of Boracéia, 15 Feb. 1950 (fl), M. Kuhlmann 2330 (SP), 19 July 1957 (fr), M. Kuhlmann 4216 (SP, SPF), 10 June 1959 (fl, fr), O. Handro 864 (SP), 4 Mar. 1962 (fl), O. P. Travassos 343 (RB), 16 Apr. 1964 (fl), J. Mattos 11775 (SP), 24 Nov. 1983 (fr), A. Custódio Filho 1919 (SP), 4 Jan. 1984 (fl), A. Custódio Filho 2188 (SP), 6 Apr. 1984 (fl, fr), A. Custódio Filho 2369 (SP), 13 Sep. 1984 (fr), S. Romaniuc Neto & A. Custódio Filho 219 (SP), 4 Feb. 1988 (fl), G. A. D. C. Franco & A. Custódio Filho 431 (SP, SPF), 21 Mar. 1991 (fl, fr), M. Kirizawa 2404 (SP), 24 Nov. 1991 (fr), S. J. Gomes da Silva & E. P. Piacentin 257 (SP), 4 June 1992 (fl, fr), S. J. Gomes da Silva & E. P. Piacentin 315 (SP), 5 Sep. 1994 (fl, fr), R. T. Shirasuna et al. 31 (HRCB, SP, SPF).

Begonia jureiensis S. Gomes da Silva & Mamede, sp. nov. TYPE: Brazil. São Paulo: Mun. Iguape, Juréia-Itatins Ecological Station, 20 Feb. 1991 (fl), S. J. Gomes da Silva, I. Cordeiro, L. Rossi, J. W. Godoi & S. A. Nicolau 189 (holotype, SP; isotype, UEC). Figure 1J–Q.

Herbae 30–50 cm altae, glabrae. Folia peltata; laminae ovales, laeviter asymmetricae. Flores tepalis albis, glabris. Antherae obconicae. Rami styli laminares. Capsulae ignotae.

Herbs glabrous, 30–50 cm tall. Stems erect to prostrate but erect at branch apices, internodes (0.7–)3–3.5(–13.5) cm long. Stipules deciduous, ovate, apex mucronulate, ca. 3 × 1.5 cm; petioles glabrous, (6–)8.5–12.5(–17.5) cm long. Lamina glabrous, peltate, entire, ovate, slightly asymmetric, 18–23.5(–24.5) × (10–)11.5–14(–14.8) cm, palmatinnervous, 7 to 8 primary veins, blade bases rounded, margins dentate, narrowing to acuminate at apices, upper surface green with white veins, lower surface green to purplish red. Cymes 1 or 2

dichotomously branched, peduncles (2–)3.5–7.5(–8) cm long; bracts caducous, white to lightly pink, ovate, apex mucronulate, 13–14 × 7–8 mm. Staminate flowers: tepals 4, white, glabrous, outer ones widely ovate, 17–21 × 18–19 mm, inner ones obovate, 10–17 × 5–7 mm, stamens ca. 30, anthers obconical, (0.7–)0.8–1.1 mm long, longitudinally ridged along dehiscence sutures, filaments free, 1.1–1.9 mm long, connective truncate. Pistillate flowers: bracteoles 2, persistent or deciduous, white, ovate, ca. 15 × 10 mm; tepals 5, white, glabrous, two ovate, ca. 16 × 13 mm, one obovate asymmetric, ca. 15 × 7 mm, two obovate to elliptic, ca. 12 × 5–6 mm, hypanthium ca. 11 mm long, ovary ca. 7.8 mm, placentae bilamellate, ovuliferous throughout, style branches flattened, almost kidney-shaped, stigma papillose along margins and apex. Capsules not seen.

Distribution. This species is known only from two collections, both from the type locality, where it is rare, growing on rocky slopes, at ca. 100 m.

Phenology. Collected in flower in February and March.

Etymology. The specific epithet alludes to the type locality (Juréia Mountains), a well-preserved area of Atlantic forest in the southern coast of São Paulo State, Brazil.

There are 14 Brazilian species of *Begonia* with peltate blades. In the state of São Paulo, only *B. paulensis* A. DC. shares this character; it differs from this new species by its hispid leaf blades and style branches cylindrical and spirally curled. Vegetatively, *B. jureiensis* resembles *B. pilgerana* Irmscher, an endemic species from Santa Catarina State, which is readily distinguished by its entire placentae, apex of petioles pubescent, staminate tepals pilose, and style branches bicornute. The flattened, kidney-shaped style branches found in *B. jureiensis* are not common within the genus, occurring in sections *Filicibegonia* (Africa), *Muscibegonia* and *Erminea* (Madagascar), and in the monotypic section *Pereira* (Brazil). The other species of this section, *B. edmundoi* Brade, is characterized by its large flowers and basifixed, pinnately veined leaves.

Paratype. BRAZIL. São Paulo: Mun. Iguape, Juréia-Itatins Ecological Station, 15 Mar. 1990 (fl), L. Rossi et al. 563 (SP).

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